AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Previously Presented) A transmission apparatus comprising:

a first relay receiving data messages formatted in a first protocol from a transmitter and converting the data messages formatted in the first protocol into data messages formatted in a second protocol;

a second relay connected to the first relay and receiving the data messages formatted in the second protocol from the first relay and transmitting the data messages formatted in the second protocol in a synchronous mode to a receiver;

a transmission channel interconnecting the first and second relays and having a limited data rate associated to transmission in circuit mode, wherein said data messages formatted in said second protocol include data messages of different lengths; and

means for transmitting said data messages formatted in said second protocol over said transmission channel in an asynchronous mode.

2. (Previously Presented) The apparatus according to claim 1, wherein the second relay includes a buffer memory configured to store the data messages received from the first relay and then to transmit the data messages to the receiver.

3. (Previously Presented) The apparatus according to claim 2, wherein the second relay includes a decoder for receiving an instruction to retransmit a data message and for storing a copy of a data message that is to be retransmitted in the buffer memory.

4. (Previously Presented) The apparatus according to claim 1, wherein the first protocol has a plurality of data rates for transmitting payload bits, the rate at which the payload bits are transmitted over the transmission channel being intermediate in value between the data rates of the first protocol.

5. (Previously Presented) The apparatus according to claim 2, wherein the buffer memory is of the first-in-first-out type.

6. (Previously Presented) A transmission method comprising the steps of:

receiving, in a first relay, data messages formatted in a first protocol from a transmitter;

converting the data messages formatted in the first protocol into data messages formatted in a second protocol;

transmitting the data messages formatted in the second protocol to a second relay connected to the to the first relay by a transmission channel having a limited data rate associated to transmission in circuit mode, wherein said data message formatted in said second protocol include data messages having different lengths, and said data messages having different lengths are transmitted over said transmission channel in an asynchronous mode; and

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transmitting, in a synchronous mode, the data messages formatted in the second protocol from the second relay to a receiver.

7. (Previously Presented) A method according to claim 6, further comprising:

storing a plurality of the received data messages in a buffer memory of the second relay prior to the second relay transmitting the messages to the receiver.

8. (Previously Presented) A method according to claim 7, wherein:

a message retransmission instruction is decoded in the second relay;

a copy of a message to be retransmitted is stored in the buffer memory; and

a determined retransmission order is modified.

9. (Previously Presented) A method according to claim 6, wherein the first protocol has a plurality of data rates for transmitting payload bits, the rate at which the payload bits are transmitted over the transmission channel being intermediate in value between the data rates of the first protocol.

10. (Previously Presented) A method according to claim 7, wherein the buffer memory is of the first-in-first-out type.

11. (Previously Presented) The transmission apparatus according to claim 2, wherein said second relay further includes a decoder for receiving instructions for controlling said buffer memory, said decoder determining whether a message is unavailable for transmission during a following transmission window based reception date of the message.

12. (Previously Presented) A transmission apparatus comprising:

a first relay receiving data messages formatted in a first protocol from a transmitter and converting the data messages formatted in the first protocol into data messages formatted in a second protocol;

a second relay connected to the first relay and receiving the data messages formatted in the second protocol from the first relay and transmitting the data messages formatted in the second protocol in a synchronous mode to a receiver;

a transmission channel interconnecting the first and second relays and having a limited data rate associated to transmission in circuit mode, wherein said data messages formatted in said second protocol include data messages having a length different from a length of a transmission window which would be used for transmission in the synchronous mode over said limited data rate transmission channel; and

means for transmitting said data messages formatted in said second protocol over said channel in an asynchronous mode.

13. (Currently Amended) A relay device for a transmission apparatus, the relay device comprising:

means for receiving data messages formatted in a first protocol from a transmitter;

means for converting the data messages formatted in the first protocol into data messages formatted in a second protocol; and

means for transmitting the data messages formatted in the second protocol to another relay over a transmission ~~rate~~ channel having a limited data rate associated ~~with said second protocol~~ to transmission in circuit mode, wherein the data messages formatted in the second protocol include data messages of different lengths.

14. (Previously Presented) The relay device according to claim 13, wherein the first protocol has a plurality of data rates for transmitting payload bits, the rate at which the payload bits are transmitted over the transmission channel being intermediate in value between the data rates of the first protocol.

15. (Previously Presented) The relay device according to claim 13, further comprising means for transmitting to another relay device instructions for retransmitting the data messages formatted in the second protocol and for storing the data messages formatted in the second protocol to be retransmitted.

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16. (Currently Amended) A relay device for a transmission apparatus, the relay device comprising:

means for receiving from another relay device data messages transmitted in a circuit mode over a limited data rate transmission channel, wherein the data messages include data messages of different lengths;

a buffer memory configured to store the data messages; and

a decoder for receiving an instruction to retransmit a data message that has been previously stored in the buffer memory and transmitted in a synchronous mode to a receiver, and based on the instruction, re-storing the data message to be retransmitted in the buffer memory or changing an order in which the data messages are read from the buffer memory.

17. (New) A method for performing a conversion between transmission on a radio interface where messages of variable size are sent or received at fixed and regular time intervals and with a variable rate, and transmission on terrestrial interfaces using fixed rate channels, the method comprising transmitting on said terrestrial interfaces said messages of variable size to be sent or received on said radio interface, following each other without any time interval between each other, instead of at fixed and regular time intervals, so as to optimise use of available bandwidth on said channels.

18 (New) A device for performing a conversion between transmission on a radio interface where messages of variable size are sent or received at fixed and regular time intervals and with a variable rate, and transmission on terrestrial interfaces using fixed rate channels, said

device comprising means for transmitting on said terrestrial interfaces said messages of variable

size to be sent or received on said radio interface, following each other without any time interval

between each other, instead of at fixed and regular time intervals, so as to optimise use of

available bandwidth on said channels.